CLAIMS

1   1.   An automatic method for operating a service provider for the Internet so as to provide

2   dynamic management of hosted services comprising:

3   for each of a plurality of customer accounts:

4   providing a plurality of servers allocated to a common administrative group

5   for that customer account and configured to access software and data unique

6   to that customer account to provide hosted services to the Internet for that

7   customer account;

8   automatically monitoring each administrative group; and

9   automatically and dynamically reallocating at least one server from a first

10   administrative group to a second administrative group in response to the automatic

11   monitoring, including:

12   setting initialization pointers for said at least one server to access software and

13   data unique to the customer account for the second administrative group; and

14   reinitializing said at least one server such that said at least one server joins the

15   second administrative group.

1   2.   The method of claim 1 wherein the plurality of servers assigned to each administrative group

2   are operably coupled together by an intranet and where the step of automatically monitoring an

3   administrative group is accomplished in part by a communication channel different than the intranet

4   for that administrative group.

1   3.   The method of claim 1 wherein the plurality of servers assigned to the first administrative

2   group are located at a first site and the plurality of servers assigned to the second administrative

3   group are located at a second site geographically remote from the first site and wherein the step of

4   automatic monitoring further comprises automatically replicating at least data for the first

5   administrative group to the second site.

1   4.   The method of claim 1 wherein the step of dynamically reallocating is performed in response

2   to the automatic monitoring in combination with parameters for each customer account defined in

3   service level agreement database.

1   5.   The method of claim 1 wherein the step of automatic monitoring detects a failure of one of

2   the servers in the second administrative group and dynamically allocates at least one of the servers

3   in the first administrative group to replace the failed server in the second administrative group.

1   6.   The method of claim 1 wherein the step of automatic monitoring predicts a workload

2   increase for the servers in the second administrative group and dynamically allocates at least one of

3   the servers in the first administrative group to redistribute the workload increase among a greater

4   number of servers in the second administrative group.

1   7.   The method of claim 1 wherein the step of setting initialization pointers utilizes information

2   maintained in a personality module for each customer account to determine the initialization

3   pointers.

1   8.   The method of claim 1 wherein each server is programmatically connected to the Internet

2   and wherein the step of dynamically reallocating further includes switching said at least one server

3   to be operably connected to the Internet as part of the second administrative group.

1   9.   The method of claim 8 wherein each server is further programmatically connected a disk

2   storage unit and wherein the step of dynamically reallocating further includes switching said at least

3   one server to be operably connected to a portion of the disk storage unit storing software and data

4   unique to the customer account of the second administrative group.

1   10.   The method of claim 1 wherein the step of dynamically reallocating further comprises billing

2   a customer account at a higher rate for the hosted services when said at least one server is

3   dynamically reallocated to that customer account.

1   11.   A system for providing dynamic management of hosted services for the Internet provided to

2   multiple customer accounts comprising:

3   at least five servers operably connected to an intranet, each server having host

4   management circuitry providing a communication channel with at least one of the other

5   servers that is separate from the intranet;

6   at least four of the servers executing a local decision software program that monitors

7   the server and communicates status information across the communication channel;

8   at least two of the servers allocated to a first administrative group for a first customer

9   account and configured to access software and data unique to the first customer account to

10   provide hosted services to the Internet for that customer account;

11   `at least two of the servers allocated to a second administrative group for a second

12   customer account and configured to access software and data unique to the second customer

13   account to provide hosted services to the Internet for that customer account; and

14   at least one of the servers executing a master decision software program that collects

15   status information from the other servers and dynamically reallocates at least one server from

16   the first administrative group to the second administrative group in response to at least the

17   status information.

1   12.   The system of claim 11 wherein the master decision software program dynamically

2   reallocates said at least one server by using the communication channel to set initialization pointers

3   for said at least one server to access software and data unique to the customer account for the second

4   administrative group and reinitializing said at least one server such that said at least one server joins

5   the second administrative group.

1   13.   The system of claim 11 further comprising a network switch operably connected between the

2   Internet and each server wherein each server is programmatically connected to the Internet under

3   control of the master decision software program.

1   14.   The system of claim 11 further comprising a disk storage unit programmatically connected to

2   all of the servers wherein the master decision software program switches said at least one server to

3   be operably connected to a portion of the disk storage unit storing software and data unique to the

4   customer account of the second administrative group.

1   15.   The system of claim 11 wherein the plurality of servers assigned to the first administrative

2   group are located at a first site and the plurality of servers assigned to the second administrative

3   group are located at a second site geographically remote from the first site and wherein the system

4   further comprises means for automatically replicating at least data for the first administrative group

5   to the second site.

1   16.   The system of claim 11 wherein the master decision software comprises:

2   a resource database;

3   a service level agreement database;

4   a master decision logic module having access to the resource database and the

5   service level agreement database and comparing the status information to information

6   in the resource database and the service level agreement database to determine

7   whether to dynamically at reallocate said at least one server from the first customer

8   account to the second customer account; and

9   a dispatch module operably linked to the master decision logic module to

10   dynamically reallocate said at least one server when directed by the master decision

11   logic module by using the communication channel to set initialization pointers for

12   said at least one server to access software and data unique to the customer account for

13   the second administrative group and reinitializing said at least one server such that

14   said at least one server joins the second administrative group.

1   17.   The system of claim 16 wherein the dispatch module further includes a set of connectivity

2   rules and a set of personality modules for each customer account.

1   18.   The system of claim 11 wherein the local decision software program includes a plurality of

2   measurement modules having outputs which are aggregated into a predictor routine to determine

3   expected response times and probabilities for that server.

1   19.   The system of claim 18 wherein the local decision software program for a given server

2   further comprises a fuzzy logic inference system connected at least to outputs of the predictor

3   routine to initiate a request to add or remove servers from the administrative group associated with

4   that server.

1   20.   The system of claim 19 wherein the master decision software program balances the request

2   to add or remove servers from all of the local decision software programs with information in a

3   resource database and a service level agreement database to determine whether to dynamically

4   reallocate said at least one server from the first administrative group to the second administrative

5   group.

1   21.   An automatic method for operating a service provider for the Internet so as to provide

2   dynamic management of hosted services comprising:

3   for each of a plurality of customer accounts:

4   providing a plurality of servers allocated to a common administrative group

5   for that customer account and configured to access software and data unique

6   to that customer account to provide hosted services to the Internet for that

7   customer account;

8   establishing a pool of a plurality of virtual servers that may be selectively configured

9   to access software and data for each of the plurality of customer accounts;

10   automatically monitoring each administrative group;

11   automatically allocating at least one virtual server to join the plurality of servers of a

12   first administrative group in response to the automatic monitoring, including:

13   setting initialization pointers for said at least one virtual server to access

14   software and data unique to the customer account for the second administrative

15   group; and

16   reinitializing said at least one virtual server such that said at least one server

17   joins the first administrative group.

1 22. The method of claim 21 wherein at least a portion of the pool of the plurality of virtual
2 servers are created on an as-needed basis in response to the automatic monitoring.

1 23. The method of claim 22 further comprising automatically deallocating at least one of the
2 plurality of servers of a second administrative group and assigning that at least one server to the pool
3 of virtual servers in response to the automatic monitoring.

1 24. The method of claim 21 wherein the step of setting the initialization pointers utilizes
2 information maintained in a personality module unique to each administrative group.

1 25. The method of claim 21 wherein the step of setting the initialization pointers precludes a
2 virtual server from having access to software and data associated with any customer account other
3 than the customer account associated with the administrative group to which the virtual server is
4 allocated.

1 26. The method of claim 21 wherein more than one virtual server is simultaneously allocated to
2 the first administrative group.